LUDRE YAZILIM

User Manuel

Vibration Sensor

Contents

1 GENERAL INFORMATION

1.1 Disclaimer

This user manual has been prepared to ensure the correct and safe usage of the vibration sensor developed by Ludre Yazılım. All technical information provided herein is accurate as of the publication date but may be subject to change due to product updates or technical improvements.

Ludre Yazılım assumes no responsibility for any direct or indirect damages, malfunctions, or data losses resulting from improper installation, misuse, or failure to follow the instructions provided in this manual. The user is solely responsible for the correct use of the device within the specified operating conditions.

The sensor must only be installed, configured, and operated by qualified personnel. Any modification, unauthorized repair, or use outside the intended purpose will void the warranty and may result in damage to the device or connected systems.

Please read this manual carefully before installation and retain it for future reference.

1.2 Forbidden use

The vibration sensor must not be used in any way that contradicts the instructions and intended applications described in this manual. The following uses are strictly prohibited:

- Using the device in environments where failure could result in personal injury, death, or significant property damage (e.g., life support systems, nuclear facilities, critical safety systems).
- Modifying, disassembling, or tampering with the device.
- Operating the sensor outside the specified voltage, temperature, humidity, or mechanical limits.
- Using the device in explosive or highly flammable environments without appropriate certification.
- Integrating the sensor into systems without adequate testing and validation.
- Exposing the sensor to excessive force, shock, vibration, or moisture beyond its rated specifications.

Such uses will immediately void the warranty and may lead to permanent damage. Ludre Yazılım assumes no liability for any consequences resulting from misuse or prohibited applications.

2 WARRANTY

2.1 Warranty

Ludre Yazılım warrants that the vibration sensor is free from defects in materials and workmanship under normal use and service conditions for a period of [12] months from the date of purchase.

This warranty applies only to the hardware components of the product and does not cover damages resulting from:

- Improper installation or misuse
- Unauthorized modifications or repairs
- Operation outside specified environmental or electrical conditions
- Accidents, negligence, or abuse
- Natural disasters or force majeure events

To claim warranty service, the product must be returned with valid proof of purchase. Ludre Yazılım reserves the right to repair, replace, or refund the product at its sole discretion.

This warranty is limited and non-transferable. No other warranties, express or implied—including merchantability or fitness for a particular purpose—are provided.

3 INTRODUCTION

3.1 Manual and conventions

Thank you for choosing the vibration sensor developed by Ludre Yazılım. This sensor is designed for accurate vibration monitoring in industrial systems, offering real-time data for fault detection and predictive maintenance.

This manual provides detailed information about the sensor's features, installation, operation, and safety precautions. Please read it thoroughly before use to ensure correct and safe operation.

Conventions used in this manual:

- Warning: Indicates a potential hazard that could result in injury or equipment damage.
- Caution: Refers to conditions that could lead to improper function or loss of data.
- Note: Highlights useful tips or important information for optimal usage.

For any technical inquiries or assistance, please contact Ludre Yazılım Technical Support.

3.2 Storage Conditions

To maintain the performance and extend the lifespan of the vibration sensor, it must be stored in proper environmental conditions. Failure to follow these guidelines may lead to sensor malfunction or permanent damage.

Recommended storage conditions:

- Temperature: -10°C to +60°C
- Humidity: 0% to 85% RH, non-condensing
- Store in original packaging or an anti-static container
- Keep away from direct sunlight, dust, and corrosive substances
- Avoid mechanical stress, shock, or excessive vibration
- Do not store in areas with strong electromagnetic fields

If the sensor has been stored for a long period, it should be inspected before use.

3.4 Cleaning and maintenance

Proper cleaning and regular maintenance are essential for ensuring the optimal performance and long-term reliability of the vibration sensor. Follow the guidelines below:
Cleaning:

- Always power off and disconnect the sensor before cleaning.
- Use a soft, dry cloth to gently clean the exterior surface.
- For more stubborn dirt, use a lightly dampened cloth with water or isopropyl alcohol.
- Do not use abrasive cleaners, solvents, or pressurized air.
- Avoid getting any liquid inside the sensor.

Maintenance:

- Periodically inspect the sensor and connectors for dust, corrosion, or physical damage.
- Ensure all mountings and connections remain secure and vibration-resistant.
- Do not attempt to open or repair the sensor yourself. Contact Ludre Yazılım Technical Support in case of any issues or suspected malfunctions.

By following these procedures, the sensor will continue to operate efficiently and reliably over its intended service life.

4 GETTING STARTED

4.1 Overview

The Ludre Yazılım Vibration Sensor is a high-performance device developed for detecting and measuring vibrations in industrial environments. With its robust BNC connector, it is designed to work seamlessly with signal conditioners and data acquisition (DAQ) cards for precise monitoring and analysis.
Thanks to its compact size, high sensitivity, and reliable structure, this sensor is ideal for applications such as:

- Predictive maintenance
- Motor and machine diagnostics
- Structural monitoring
- Vibration-based fault detection

The sensor outputs analog signals that can be processed in real-time via a compatible conditioner and DAQ system, providing engineers and maintenance teams with actionable data to improve uptime and reduce unexpected failures.

4.2 Accessories

To ensure full functionality and optimal performance, the Ludre Yazılım Vibration Sensor must be used with the following accessories:

✅ Conditioner

The signal conditioner is essential for preparing the analog signal from the sensor. It amplifies, filters, and stabilizes the signal to make it suitable for processing by the data acquisition system. The conditioner should be selected based on the application requirements and sensor specifications.

✅ DAQ (Data Acquisition) Card

The DAQ card converts the analog signal into digital form so it can be recorded and analyzed by software. It is necessary for real-time monitoring, diagnostics, and data logging. The card must be compatible with both the output type of the sensor and the conditioner.

✅ BNC Cable

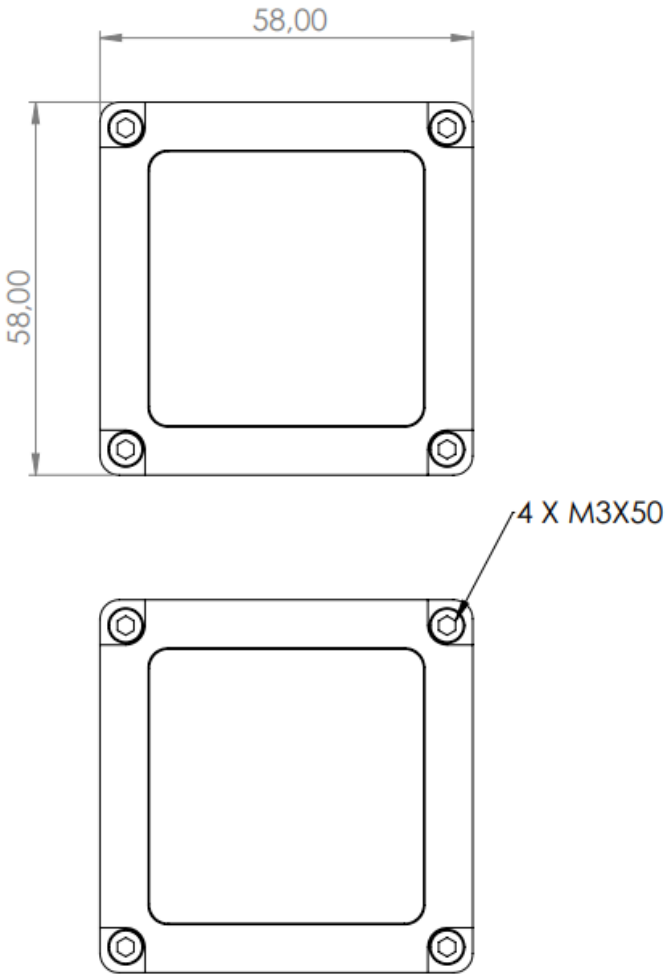
A high-quality BNC cable is required to ensure secure and interference-free signal transmission between the sensor and the conditioner.

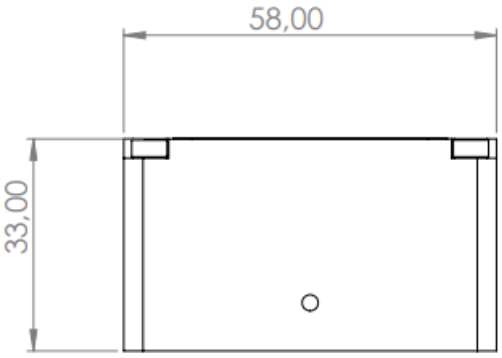
Proper use of these accessories ensures accurate data acquisition, system reliability, and long-term sensor performance.

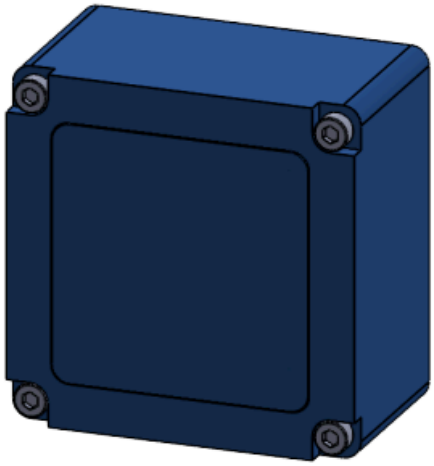
5 TECHNICAL SPECIFICATIONS

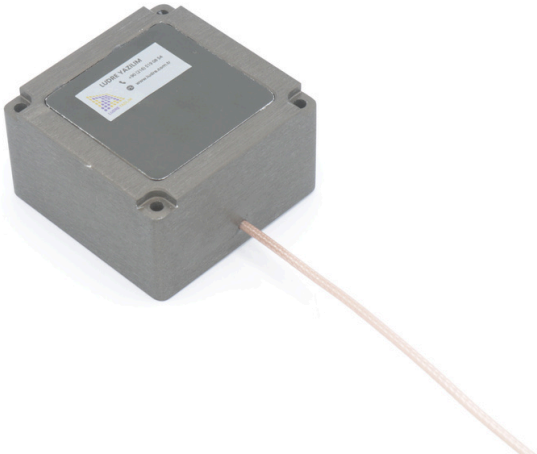
Parameter	Specification
Measurement Range	±50 g (customizable upon request)
Frequency Response	2 Hz – 10 kHz
Output Type	Analog Voltage (±5V)
Connector Type	BNC
Power Supply	24V DC, < 50 mA
Operating Temperature	-20°C to +70°C
Storage Temperature	-30°C to +80°C
Humidity Range	0% – 85% RH, non-condensing
Accuracy	±2% FS (Full Scale)
Resolution	< 0.01 g
Housing Material	Anodized aluminum
Sensor Dimensions	35 mm x 35 mm x 20 mm (H x W x D)
Weight	Approx. 120 g
Mounting Type	Screw mounting (M3 bolts) or magnetic base
Signal Conditioning	Required (use with compatible conditioner)
DAQ Compatibility	National Instruments, Advantech, and similar DAQs
Environmental Protection	IP65
Response Time	< 1 ms
Compliance	CE, RoHS

5.1 Physically Specification









LUDRE YAZILIM

Contact Us

+90 (216) 519 08 54

Dumlupınar Mahalesi, Pelin Sok. No:51 D16 Kadıköy / İstanbul

info@ludre.com.tr

www.ludre.com.tr